

### **Abstract of the Disclosure**

The invention concerns a method for non-destructive ultrasonic control, combining time-of-flight diffraction (TOFD) and inclined longitudinal wave techniques, of weld joints assembling two abutted parts. The method consists of using the time-of-flight diffraction technique, displacing in the longitudinal or circumferential direction, along the weld joint to be controlled, at least one pair consisting of a first transducer and of a second transducer, one transmitting and the other receiving ultrasonic waves, these transducers being laterally positioned on either side of the joint to be controlled, these transducers comprising piezoelectric ceramics or crystals. Furthermore, it consists of displacing along the welded joint to be controlled, using the inclined longitudinal wave technique, at least a third transducer, so as to detect any defect of the joint located at a thickness ranging between 0.5 mm and 15 mm.

